



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,960	03/31/2004	Chih-Kang Wu	SUND 512	4884
23995	7590	12/14/2005	EXAMINER	
RABIN & Berdo, PC 1101 14TH STREET, NW SUITE 500 WASHINGTON, DC 20005			HAN, JASON	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/812,960	Applicant(s) WU, CHIH-KANG	
	Examiner Jason M. Han	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities:
 - a. Page 2, Paragraph 5, Line 11: Grammatical error – missing comma after “as bad conductors of heat”;
 - b. Page 2, Paragraph 5, Line 12: following “lamp-supporting frame 130, “ please insert “and”;
 - c. Page 6, Paragraph 21, Line 15: Grammatical error – “blew” should read as “blown”;
 - d. Page 6, Paragraph 22, Line 18: Grammatical errors – “outsides” should read as “outside”; “automatically” should read as “automatic”;
 - e. Page 6, Paragraph 22, Line 19: Grammatical error – “blew” should read as “blown”;
 - f. Page 6, Paragraph 22, Line 20: Grammatical error – “forcibly” should read as “forcible”;
 - g. Page 7, Paragraph 24, Line 7: Grammatical error – “into” should read as “to”;

Appropriate correction is required.

Claim Objections

3. Claim 4 is objected to because of the following informalities: In Line 2 of the Claim, "blew" should read as "blown". Appropriate correction is required.
4. Claim 8 is objected to because of the following informalities: In Line 5 of the Claim, "in a heat-transmitting" should read as "is a heat-transmitting". Appropriate correction is required.

The following claims have been rejected in light of the specification, but rendered the broadest interpretation as construed by the Examiner [MPEP 2111].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (US Patent 6089739).
6. With regards to Claim 1, Yamamoto discloses a backlight module including:
 - A reflective base [Figures 1-3: (1, 3)], two opposite side regions [Figures 1-3: (7a, 7b)] of which both have an opening that extends along each side region;
 - A buffer block [Figures 1-3: (15)] disposed on the reflecting base and being positioned opposite to one of the openings [note Figure 2]; and

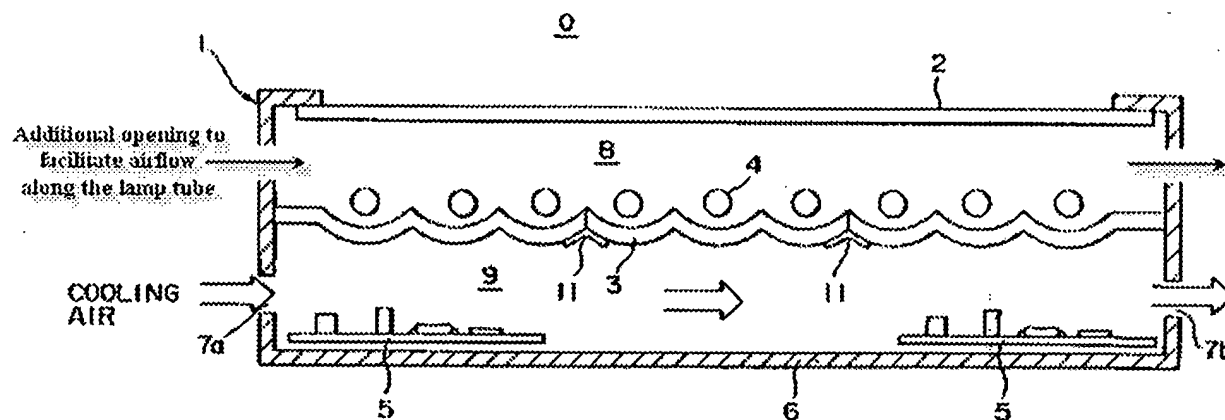
Art Unit: 2875

- A lamp tube [Figures 1-3: (4)] having two opposite electrodes [Figure 2: (12)] at two ends of the lamp tube separately, wherein one of the electrodes is mounted in the buffer block.

Yamamoto does not specifically teach the two opposite side regions [Figures 1-3: (7a, 7b)] having two opposite openings located at two ends of each side region separately.

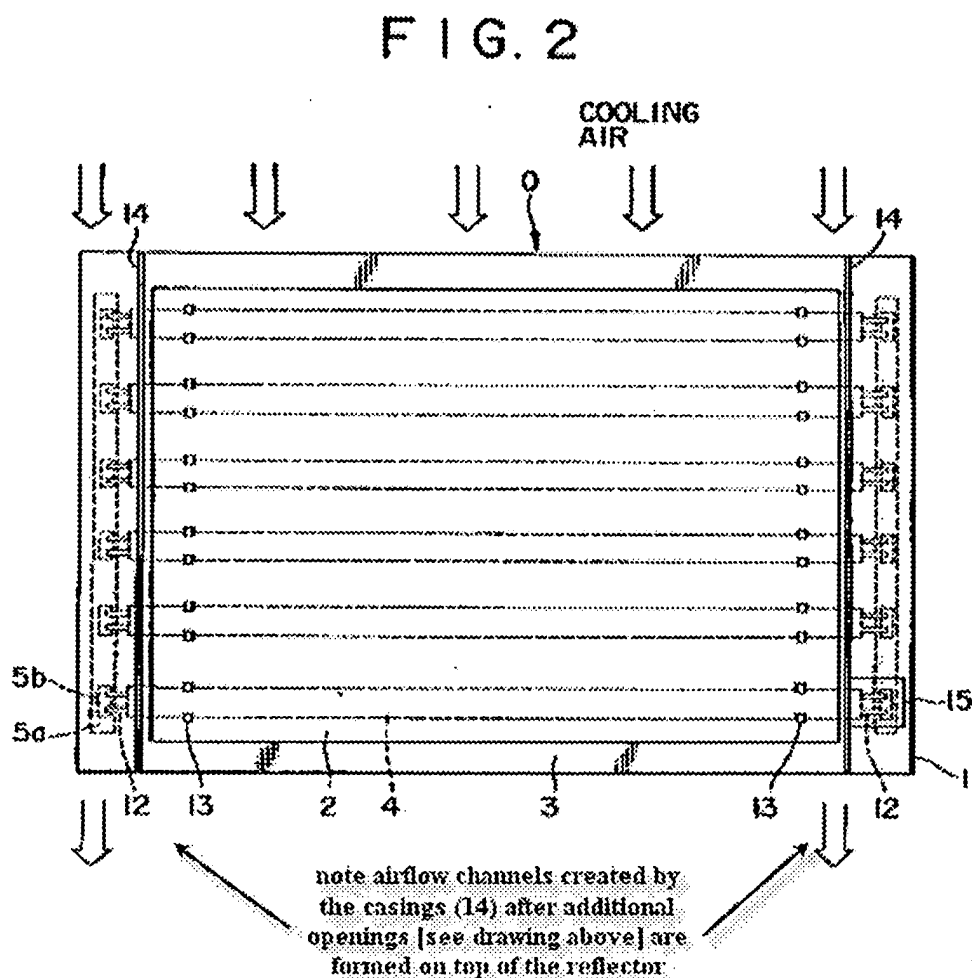
However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate two opposite openings located at two ends of each side region separately, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. In this case, providing additional openings would only facilitate heat transfer within the system, especially with airflow along the lamp as shown in the drawing below.

FIG. 1



Art Unit: 2875

7. With regards to Claim 2, Yamamoto discloses the claimed invention as cited above. In addition, Yamamoto teaches a casing [Figure 2: (14)] for covering the buffer block [Column 4, Lines 23-34], and allowing an airflow channel to be formed by the combination of an inner chamber of the casing and the openings when the casing is installed in the reflective base [see drawing below].



8. With regards to Claim 3, Yamamoto discloses the claimed invention as cited above. In addition, Yamamoto teaches the direct backlight module including a frame

[Figure 3: (23)] for covering the reflective base, whereby the frame has a hole opposite to the airflow channel [Figure 3: (23a); Column 4, Lines 59-67].

9. With regards to Claim 4, Yamamoto discloses the claimed invention as cited above. In addition, Yamamoto teaches a fan [Column 5, Lines 1-4] being installed in the frame so that air is blown in/out through the airflow channel.

10. With regard to Claims 6 and 7, Yamamoto discloses the claimed invention as cited above. In addition, Yamamoto teaches the material of the buffer block being a rubber, and more specifically a heat-transmitting rubber [Column 4, Lines 37-39].

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (US Patent 6089739) as applied to Claim 1 above, and further in view of Hayashi et al. (US Patent 6655810).

Yamamoto discloses the claimed invention as cited above, but does not specifically teach a heat-transmitting fin being disposed on the buffer block so that heat given off from the two electrodes of the lamp tube and accumulated inside the buffer block is transmitted outside by the heat-transmitting fin.

Hayashi teaches a lighting unit, wherein a heat-transmitting fin [Figure 1B: (35)], disposed on a buffer block [Figure 1B: (6)] housing a lamp tube with electrodes, accentuates heat transfer of the system via airflow [Figure 2].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the buffer block of Yamamoto to incorporate the heat-transmitting fin, as principally taught by Hayashi, in order to increase heat transfer within the system via airflow. Such heat fins are commonly known within the art to increase convection.

Art Unit: 2875

12. Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (US Patent 6089739) in view of Hayashi et al. (US Patent 6655810).

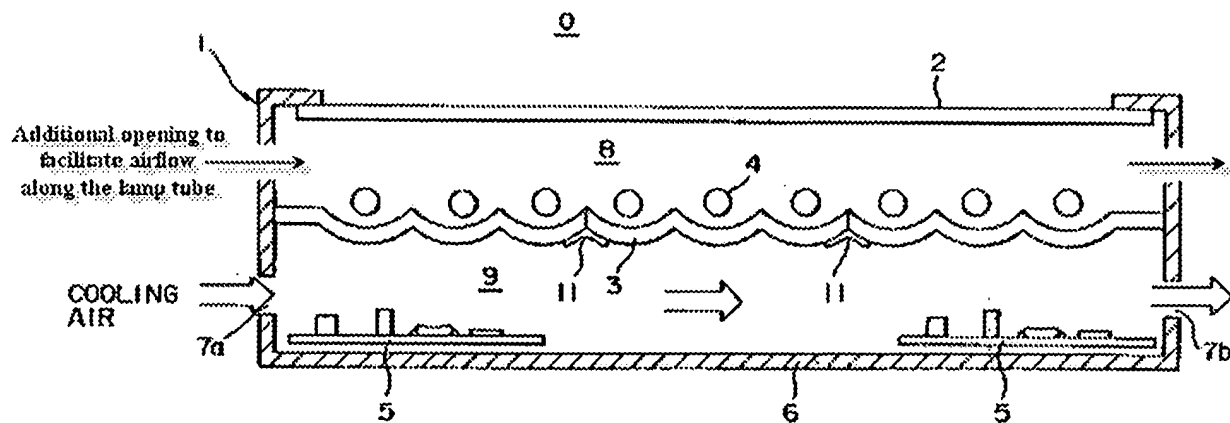
13. With regards to Claim 8, Yamamoto discloses a backlight module including:

- A reflective base [Figures 1-3: (1, 3)], two opposite side regions [Figures 1-3: (7a, 7b)] of which both have an opening that extends along each side region;
- A buffer block [Figures 1-3: (15)] disposed on the reflecting base and being positioned opposite to one of the openings [note Figure 2]; and
- A lamp tube [Figures 1-3: (4)] having two opposite electrodes [Figure 2: (12)] at two ends of the lamp tube separately, wherein one of the electrodes is mounted in the buffer block.

Yamamoto does not specifically teach the two opposite side regions [Figures 1-3: (7a, 7b)] having two opposite openings located at two ends of each side region separately.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate two opposite openings located at two ends of each side region separately, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. In this case, providing additional openings would only facilitate heat transfer within the system, especially with airflow along the lamp as shown in the drawing below.

FIG. 1



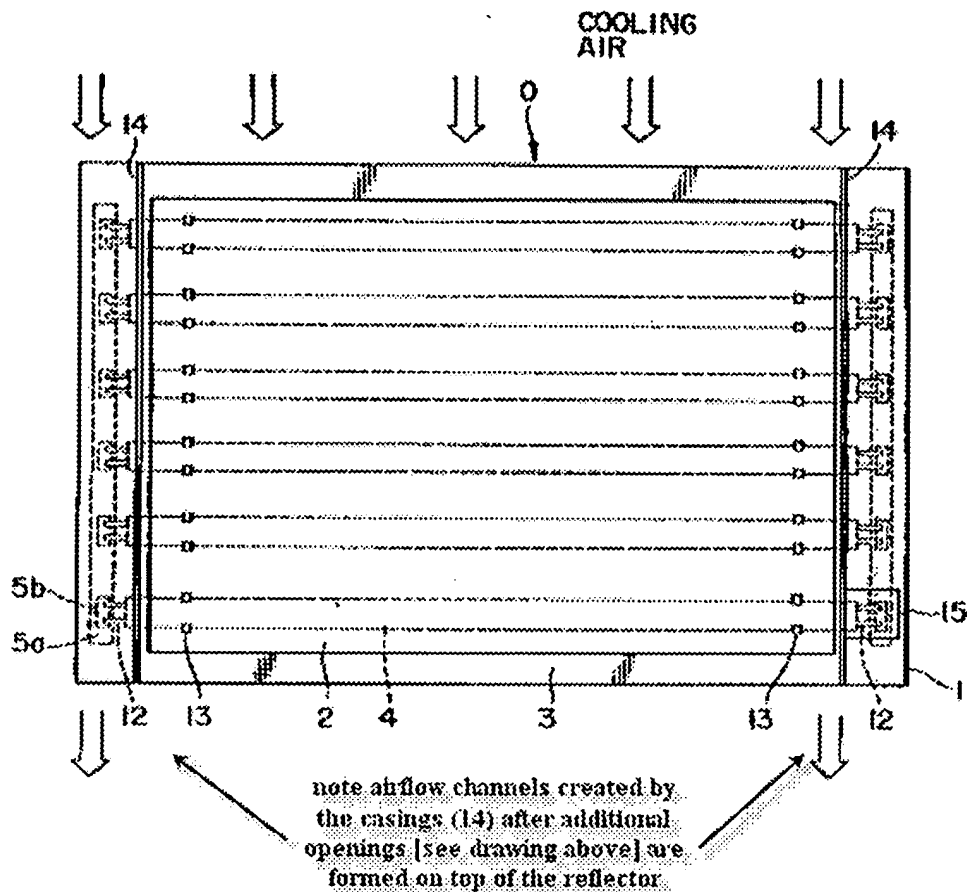
Yamamoto also does not specifically teach a heat-transmitting fin being disposed on the buffer block.

Hayashi teaches a lighting unit, wherein a heat-transmitting fin [Figure 1B: (35)], disposed on a buffer block [Figure 1B: (6)] housing a lamp tube with electrodes, accentuates heat transfer of the system via airflow [Figure 2].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the buffer block of Yamamoto to incorporate the heat-transmitting fin, as principally taught by Hayashi, in order to increase heat transfer within the system via airflow. Such heat fins are commonly known within the art to increase convection.

14. With regards to Claim 9, Yamamoto in view of Hayashi discloses the claimed invention as cited above. In addition, Yamamoto teaches a casing [Figure 2: (14)] for covering the buffer block [Column 4, Lines 23-34], and allowing an airflow channel to be formed by the combination of an inner chamber of the casing and the openings when the casing is installed in the reflective base [see drawing below].

FIG. 2



15. With regards to Claim 10, Yamamoto in view of Hayashi discloses the claimed invention as cited above. In addition, Yamamoto teaches the direct backlight module including a frame [Figure 3: (23)] for covering the reflective base, whereby the frame has a hole opposite to the airflow channel [Figure 3: (23a); Column 4, Lines 59-67].

16. With regards to Claim 11, Yamamoto in view of Hayashi discloses the claimed invention as cited above. In addition, Yamamoto teaches a fan [Column 5, Lines 1-4] being installed in the frame so that air is blown in/out through the airflow channel.

17. With regard to Claims 12 and 13, Yamamoto in view of Hayashi discloses the claimed invention as cited above. In addition, Yamamoto teaches the material of the buffer block being a rubber, and more specifically a heat-transmitting rubber [Column 4, Lines 37-39].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited to further show the state of the art pertinent to the current application, but are not considered exhaustive:

US Patent 5726722 to Uehara et al;

US Publication 2002/0149713 to Ishida et al;

US Patent 6580477 to Cho;

US Patent 6642974 to Liao;

US Patent 6880947 to Hsieh et al;

US Publication 2005/0140843 to Shimizu;

US Patent 6964496 to Yang et al;

US Publication 2005/0253981 to Kruijt et al.

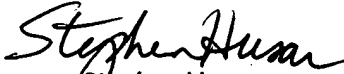
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2875

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (12/11/2005)


Stephen Husar
Primary Examiner